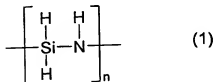


Claims

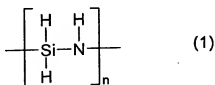
1. A coating for metal surfaces which is composed of
 - a.) optionally a scratch-resistant perhydropolysilazane base coat and
 - b.) an upper protective coat comprising at least one perhydropolysilazane of the formula (1) and photocatalytic titanium dioxide



where n is an integer and is such that the perhydropolysilazane has a number-average molecular weight of from 150 to 150 000 g/mol.

2. The coating as claimed in claim 1, wherein the protective coat has a thickness of at least 1 micrometer, preferably 2 to 20 micrometers, more preferably 3 to 10 micrometers.
3. The coating as claimed in claim 1 and/or 2, wherein the ratio of perhydropolysilazane to titanium dioxide in the photocatalytic coat is 1:0.01 to 1:100, preferably 1:0.1 – 1:50, more preferably 1:1 – 1:5.
4. The coating as claimed in at least one of the preceding claims, wherein the titanium dioxide used is in the anatase modification.
5. The coating as claimed in at least one of the preceding claims, wherein the particle size of the titanium dioxide particles is in the range of 0.001-0.5 μm .
6. A process for producing a self-cleaning coating for metal surfaces, in which first of all in a first, optional step
 - a.) a perhydropolysilazane solution comprising a catalyst and if desired one or more cobinders in a solvent is applied to the metal surface as a base coat and subsequently

b.) a further protective coat is applied to this base coat or to the metal surface directly, said protective coat comprising at least one perhydropolysilazane of the formula (1) and photocatalytic titanium dioxide



where n is an integer and is such that the perhydropolysilazane has a number-average molecular weight of from 150 to 150 000 g/mol.

7. The process as claimed in claim 6, wherein the concentration of perhydropolysilazane in the solvent for the base coat and the protective coat is in the range from 0.01% to 40% by weight.
8. The process as claimed in claim 6 and/or 7, wherein the curing of the coats takes place at room temperature to 200°C.
9. The process as claimed in at least one of the preceding claims 6 to 8, wherein when a base coat is applied in step a) it is first cured before the protective coat is applied.
10. The use of a coating as claimed in at least one of claims 1 to 5 as a self-cleaning protective coating for metallic surfaces.
11. The use as claimed in claim 10, wherein the protective coating is on rims, especially aluminum rims.